

Claims

What is claimed is:

1. A laser drilling method for multi layered sheet-like materials, comprising:

5 drilling the materials by laser pulse trains having energy that generates an inter-layer pull-off force smaller than an inter-layer adhesion force; and

trimming a shape of the hole by laser pulses having energy higher than that of the laser pulse trains.

10 2. The laser drilling method according to claim 1, drilling and trimming are effected through changing laser pulse width.

3. The laser drilling method according to claim 1, drilling and trimming are effected through changing the peak
15 value of laser pulses.

4. A laser drilling apparatus comprising:

a laser oscillator;

a control device for supplying the laser oscillator with pulses of pulsed laser beams;

20 a system for supplying laser pulse trains to the control device for forming a hole in a multi layered sheet-like material, the laser pulse trains having energy that generates an inter-layer pull-off force smaller than an inter-layer adhesion force; and

25 a system for supplying laser pulses to the control device

for trimming the hole, the laser pulses having energy higher than that of the laser pulse trains.

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